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Gorbachev's Food Problem: Sources and Strategies

An Intelligence Assessment

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Gorbachev's Food Problem: Sources and Strategies

An Intelligence Assessment

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Gorbachev's Food Problem: Sources and Strategies

Key Judgments

Information available as of 29 January 1990 was used in this report.

During Mikhail Gorbachev's five years in power, the Soviet public's dissatisfaction with available food supplies has grown increasingly acute. Given the continuation of current policies and barring an unprecedented stretch of good weather, this dissatisfaction almost certainly will persist and possibly will increase over the next five years. The limited success of Gorbachev's previous efforts to ameliorate the Soviet food problem provides scant grounds for believing that substantial progress will be made.

The food problem that so disturbs most Soviet consumers is not the quantity of food available but the poor quality and limited selection of foodstuffs in general and the lengthy shopping time needed to find and purchase food. The unsatisfactory state of food supplies is the product of a food production and distribution system in which every major element—farms, transportation and storage, food processing, and wholesale and retail trade—is poorly equipped, economic incentives are weak, and there is excessive centralization and no effective coordination. Under Gorbachev, the problem has been compounded by a rapid increase in money incomes, which, when coupled with only limited increases in the availability of nonfood consumer goods, has sharply stimulated demand for better quality food.

Gorbachev's current strategy for dealing with these problems is an amalgam of measures he has pursued previously. In essence, he is counting on a surge in farm production, an expectation based in part on an unrealistic hope for high productivity gains from traditional measures—such as supplying farms with better machinery and more and better agrochemicals—that have not been effective in the past. Other, more radical measures include restoration of a sense of ownership of the land through expanded leasing; streamlining the bloated agricultural bureaucracy by decentralizing management of farms; and concentration of investment resources on transportation, storage, and food processing, the weakest links in getting food to the consumer. Accomplishing these measures, however, will be difficult and some have already been watered down:

- Farm managers and local officials are reluctant to relax their control over farmworkers, and sufficient guarantees to protect leaseholders' rights are not yet in place.

- Many of the central agricultural bureaucracy's administrative functions—such as allocating resources, determining procurement prices, and ordering agricultural products—rather than devolving to local authorities, have merely been transferred from one central agency to another.

- Investment funds are increasingly hard to find in a strained economy, and farms still are not adequately supplied with appropriate machinery and equipment.

So far, Gorbachev's programs have enabled a few local areas to improve food supplies markedly, but countrywide progress has been slow. Although farm output, aided by generally favorable weather, reached a new high in 1986, it was down in both 1987 and 1988 before turning upward again in 1989. Chronic high wastage persists and imports of farm products remain high

Looking forward to the next few years, it is possible that good weather will enable farm production to increase, but, on average, the USSR experiences poor weather in at least two out of every five years. Without unusually good weather, the limitations of Gorbachev's policies and the obstacles in the path of these policies mean that substantial success in remedying the food problem should not be expected

We believe bolder measures than Gorbachev has taken so far are needed to achieve tangible progress. Moscow must allow more direct food sales by farms and individuals, establish a flexible pricing system that can respond to supply conditions, stop interfering in day-to-day management of farms, and integrate the food supply network. To create an environment in which these measures have a good chance to work, moreover, Moscow must reduce the huge amount of excess purchasing power consumers now enjoy—for example, by increasing sales of nonfood goods or raising retail prices

The only way Gorbachev could get more food on empty shelves quickly would be to step up imports substantially. But the very large quantities needed would strain the already overloaded transportation system and, at a time of declining hard currency earnings, could require a doubling of the $2.6 billion in hard currency spent for food imports, excluding grain, in 1988

Although we believe that the USSR cannot resolve the food problem with imports, Moscow will remain a major importer of grain and other farm products through at least 1995. Barring a sudden cooling in US-Soviet political relations, the United States can expect to supply a large share of the USSR's grain needs over the period. Moreover, recent Soviet purchases of other US farm products suggest that US agricultural exports to the USSR could broaden in the next several years

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Gorbachev's Food Problem

Mikhail Gorbachev presides over a Soviet Union in which public dissatisfaction over living standards has become increasingly acute and the state of food supplies has been a major cause of discontent. [ ] [ ], Soviet consumers regard the availability and the quality of food as the most important determinants of their quality of life. Western and Soviet estimates of Soviet family spending patterns tell a similar tale. Although the prices of most foodstuffs are kept artificially low in the state retail trade network, Soviet families spend, on average, about 40 percent of the family budget on food, a far higher percentage than in most industrialized nations. According to recent Soviet media accounts, poor families spend as much as 70 percent of their income on food.

For most Soviet consumers, the real food problem is not the quantity of food available but the poor quality and limited selection of foodstuffs in general and the lengthy shopping time needed to find and purchase food. The Soviet population consumes close to 3,300 calories per person per day, about the same as in the United States. Since 1980, however, the average share of calories from potatoes and grain products has remained relatively constant at 42 to 44 percent, roughly equal to the share in the United States on the eve of World War I and slightly less than in most of Western Europe just before World War II. In Central Asia, where levels of living are lower in general, the share is 55 to 60 percent. Throughout the Soviet Union, moreover, fresh food, particularly fruits and vegetables, often is partially spoiled. Meat is largely bone, fat, and gristle, and rarely can more than two or three varieties of fresh or canned vegetables be found at one time in one store. [ ] [ ] reports that, even when state stores are relatively well stocked, would-be buyers can spend two to three hours purchasing several different types of food because each type requires waiting in at least three queues

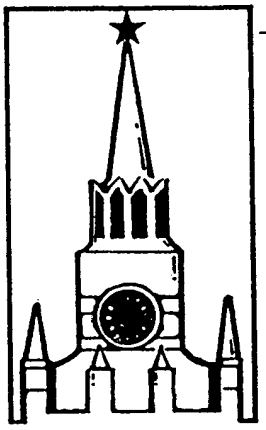
There are other important indicators of the inefficiency of Soviet food production:

- The agroindustrial sector claims nearly one-third of investment but obtains a smaller return on these resources than any other productive sector of the Soviet economy except fuels.
- Farm production absorbs nearly 20 percent of the labor force, as compared with less than 5 percent in the United States.
- State subsidy payments to cover the differences between low state retail prices and procurement prices paid to farms reached nearly 88 billion rubles in 1989, more than three times the 1980 level and equal to roughly 20 percent of state budget expenditures.
- Imports of farm products—particularly grain and other feedstuffs—for hard currency compose about one-fifth of total hard currency expenditure

Sources of the Food Problem: Shortfalls at Every Stage

Almost all of the organizations involved in food production—farms, procurement agencies, food-processing enterprises, and the trade network—bear some blame for the unsatisfactory state of Soviet food supplies. The lack of coordination among these organizations also causes enormous losses as agricultural products move from farm to retail outlet and substantially reduces the benefits of increased production. Moreover, the extreme centralization of Soviet economic planning and management hinders innovation and makes coordination extremely difficult (see inset).

Impact of Central Planning



The management of Soviet agriculture is directed by annual and five-year plans. Numerous instructions govern most production decisions and day-to-day farm operations on both state and collective farms. Soviet officials and planners apparently still believe that farm managers and workers cannot make appropriate decisions, even in matters as subject to local conditions as when to start planting or harvesting. In such a system, no farm can fail; unprofitable and loss-generating farms are subsidized with credit that frequently is not repaid.

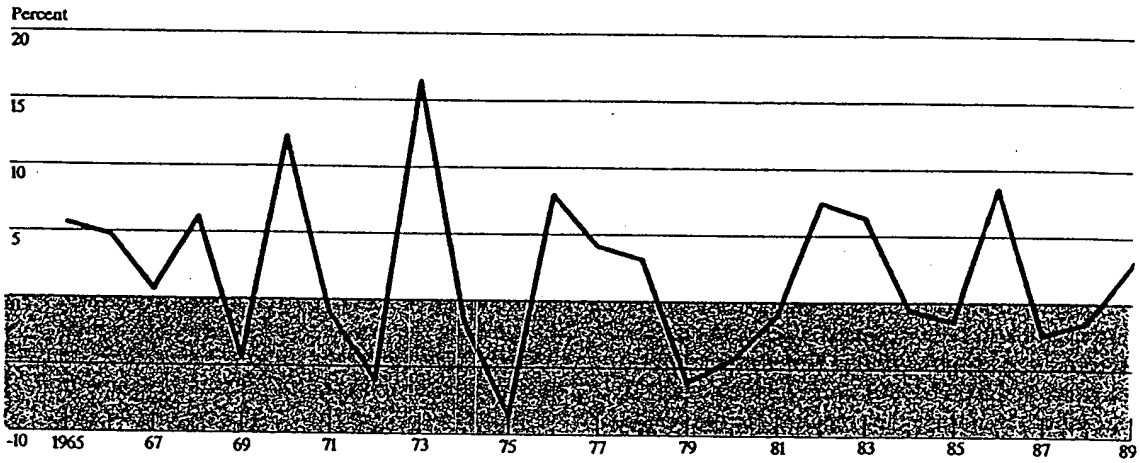
Prices for both resources and products—and the bonus system that encourages sales of products above plan—are largely set by the State Price Committee, Goskomtsen. As a result, the price system does not respond to changing conditions of demand and supply, nor does it provide adequate guidance to planners or farms in directing the most efficient resource and product combinations.

Investment and resource allocation are also centrally determined. Since 1965, when Leonid Brezhnev outlined his first major effort to expand farm production, Soviet planners have allocated more and more farm machinery, agrochemicals, construction materials, and other inputs to farms in an attempt to accelerate growth in production. Capital stock in agriculture has roughly tripled and deliveries of fertilizer have more than doubled since 1970, but farm output, according to the official Soviet measure, has increased by only 40 percent.

Centrally planned food marketing is also unsatisfactory. Errors in estimating demand lead to shortages in some areas and abundance in others. Unpredictable deliveries make it difficult to maintain steady supplies to consumers. In 1988, for example, one fruit and vegetable association received a month's order for tomatoes—28 railcars' worth—in one day. Once sales plans—denominated in rubles at the retail level—are met, stores may refuse further deliveries despite consumer demand.

Central planning is chiefly responsible for the failure of farms, procurement agencies, food-processing enterprises, and retail trade organizations to synchronize their activities. At each stage of the process, organizations are rewarded primarily for meeting gross output targets. There are no substantial penalties for failing to supply enterprises at the next stage with high-quality inputs on a timely basis.

Figure 1
USSR: Annual Change in Farm Output, 1965-89



The farm. The dismal performance of the Soviet agroindustrial sector begins on the farm. Although farm production has been increasing on average at nearly double the rate of population growth since Brezhnev's first year in power, annual output during that period (1965-89) has fluctuated substantially, increasing in 10 years but decreasing in 14 (see figure 1). The USSR's generally harsh climate and recurring weather problems have been partly responsible for the disappointing performance, as has the concentration of decisionmaking in the hands of central planning unattuned to local farm conditions. Chronic problems with unreliable equipment, shortages of spare parts, deteriorating and eroding soils, and acquisition of such resources as agrochemicals also played some role. Since 1984 growth in deliveries to farms has dropped to less than half the rate achieved in the previous decade. Moreover, the effectiveness of such inputs as fertilizer has declined, largely because of incorrect or wasteful application methods and improper timing.

The failure of the agricultural machine-building industry to produce new, more productive machinery frequently forces farms to rely on outmoded models and constrains growth in farm productivity. According to a respected Soviet academician, the share of farm equipment that has been in production for over 10 years grew from 25 percent in 1977 to nearly 40 percent in 1987.

Transportation and storage. The shortcomings of rural transportation and storage facilities have also played a prominent part in the food supply problem.

Transporting farm products without excessive waste and spoilage is difficult because:

- Rural roads are inadequate, both in quantity and quality, and construction materials are in short supply.
- There are serious shortages of trucks, particularly such specialized vehicles as refrigerated carriers.
- The nationwide shortage of vehicle spare parts, repair and maintenance facilities, and qualified repair personnel is far more pronounced in rural areas than in towns and cities.
- Railcars used to ship farm products are often inappropriate or broken.

Storage facilities at farm supply organizations and on farms have also been neglected by central planners. According to an authoritative Soviet journal, for example, in the mid-1980s farms had less than 40 percent of the storage they required for the products produced. Planners had long considered large, centralized food-processing plants more efficient than small, local plants, and the emphasis was on moving commodities directly to large centers that could be located anywhere from 50 to several hundred kilometers away from farms.

Food processing. Another key element in the Soviet food supply chain, the food-processing industry, is still primitive by Western standards. The Soviets process only about 55 percent of farm output, as compared with 85 percent in the United States. In addition, the Soviet food-processing industry relies almost exclusively on simple methods, such as canning, mixing, and concentrating, and produces only minuscule quantities of convenience products, such as frozen foods, boxed mixes, and heat-and-serve items. Soviet authorities also claim that 40 percent of the food-processing equipment in use is more than a decade old.

Programs to upgrade and modernize the food-processing industry have continually fallen short of the goals that planners set. According to Premier Ryzhkov, for example, in 1987 only a little over half of the industry's orders for modern equipment were met by its suppliers. As a result, grueling conditions prevail in the industry—less than half of all food processing is automated and workers must clean, sort, chop, and mix by hand. Such conditions, combined with low wages and benefits, make it difficult to attract and retain employees. New equipment, moreover, is frequently installed haphazardly, often necessitating additional manual labor between processing stages and canceling any potential productivity gains.

Food distribution. The final links in the food supply chain also have serious weaknesses. According to Soviet statistics, roughly 95 percent of all food sold in the USSR is marketed at centrally set prices through a state-run wholesale and retail trade network that is clearly unequal to its task. The wholesale trade system, for example, must receive, sort, and handle enormous quantities of potatoes, other vegetables, and fruit during the peak harvest months, but Soviet officials report that the system has only 32 percent of the storage capacity needed for potatoes and other vegetables and 47 percent of that needed for fruit. The lack of containerization forces wholesale trade workers to spend an inordinate amount of time in loading and unloading work, leaving little time for sorting or careful handling and adding greatly to losses. According to Premier Ryzhkov, containerization of fruit and vegetable shipments could cut losses in half.

The retail marketing system is also in a sorry state (see inset). A large share of food is delivered to stores in bulk to be packaged by trade workers or customers, who must bring their own containers for such products as vegetable oil and cottage cheese. In 1988 retail outlets received less than 30 percent of their supplies already packaged.[1] The generally poor quality of packaging and the predominance of packaging at the point of sale are not only inconvenient but also add substantially to waste.

Only 5 percent of food is marketed through collective farm markets (CFMs), where prices are relatively free to respond to demand. Sellers in CFMs may be either individuals who have produced more on their plots

[1] Soviet food packaging materials comprise mainly heavy glass bottles and jars, tin cans, and paper. Materials such as cellophane, plastics, and metal foil account for only 5 percent of the total.

Retail Food Stores: Adding to Consumers' Burdens

Retail food stores consist mainly of state stores, located largely in urban areas, and consumer cooperatives, located largely in rural areas. Although the number of self-service stores is increasing, many state and cooperative stores operate much as they did at the turn of the century. Customers queue to order each wanted product at the counter, then stand in another line to pay for the product, then return to the original line. This system costs consumers considerable time—women industrial workers, for instance, spend almost five hours a week shopping for their meager purchases—and proves time consuming for trade workers. Soviet research has found that retail trade workers spend four to five hours every day packaging goods. Little time is left for improving the quality of the service. Low wages paid to trade workers—only 77 percent of the average Soviet monthly wage—also make it difficult to retain workers. According to the Ministry of Trade, in 1989 only 79 percent of work positions were filled. Finally, retail trade facilities are limited—the Soviet Union has an average of one store per 500 customers, and floorspace averages one-fifth of a square meter per customer. The rural network is particularly underdeveloped, leaving many villages without stores.

than they can use or state or collective farms that have surplus production. Conditions in these markets are generally deplorable; of the 6,087 markets existing today, one-quarter have no lighting, and over half have no plumbing, according to Soviet statistics.[2]

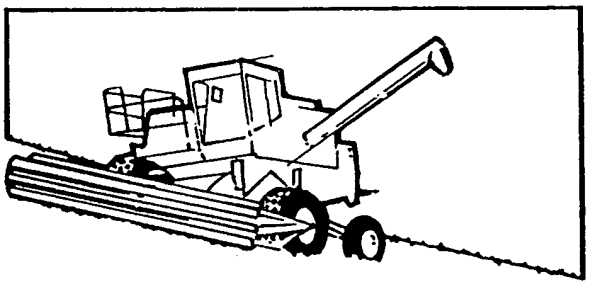
Gorbachev's Strategy: The First Four Years

Not surprisingly for one who played a major role in developing the Brezhnev Food Program (see inset), Gorbachev made this multifaceted approach to resolving the food problem the basis of his own plans for the agroindustrial sector during his early tenure as General Secretary. In particular, he reorganized the agroindustrial bureaucracy yet again, shifted resources, and attempted to give more autonomy to both farms and farm workers. He also expanded several elements of Brezhnev's strategy, such as the intensive technology program—which emphasizes concentrating high-quality seeds and agrochemicals on more fertile land—and improvement in animal productivity.

This strategy had an initial favorable impact—farm output, aided by generally favorable weather, reached a new high in 1986, and the steady upward trend in costs of production was arrested. The gains achieved, however, were neither dramatic nor continuous. Indeed, farm production declined by more than 1 percent per year in 1987 and 1988. Largely because of favorable weather, it rose again in 1989, according to preliminary estimates (see table 1). Some 30 percent of output is still lost after harvest, however, and imports have remained high.

[2] Since 1986 state and collective farms have had the right to market up to 30 percent of planned procurement of specified produce through CFMs.

The Brezhnev Food Program



The 1982 Food Program was a major package of measures intended to improve the production and distribution of food: to simplify the tangle of involved ministries by creating a single administrative hierarchy; to reduce imports of farm products; and to improve financial incentives, particularly for younger, more skilled workers on farms. Although it set the stage for some farm production increases, the program did little to further other important regime objectives—such as arresting the rapid rise in costs of production, raising productivity, reducing waste, increasing food supplies, and reducing imports.

Organizational shortcomings contributed to the program's meager results. Although the State Agroindustrial Committee was created to make input producers and suppliers of services, such as chemical application, more responsive to the needs of farms, the ministerial chain of responsibility was not broken. More important, however, the program failed to come to grips with the fundamental problems of linking rewards to performance throughout the agroindustrial sector, giving farms freedom to make production decisions, providing incentives for farm managers to use resources carefully, and introducing a comprehensive price system that would promote the desired mix and volume of inputs for farms and products for consumers.

The limited increase in farm production that was achieved in the years immediately following introduction of the Food Program resulted largely from agronomic programs initiated or supported by Gorbachev. For example, Gorbachev, who then held the agriculture portfolio on the Politburo, implemented Food Program initiatives that emphasized the use of roughages and protein in animal diets to improve animal productivity (weight gain per animal), directed resources—including additional fertilizer—into increased production of these components, and stressed upgrading facilities for processing and storage of feeds. Gorbachev, who had long urged closer ties between agricultural research and production, also was probably responsible for beginning the intensive technology program, primarily for grain production. This program—which essentially means following standard Western farm methods, use of high-quality seeds, timely application of agrochemicals, and so on—was begun on an experimental basis in late 1983.

The success in 1986 fueled consumer expectations that longstanding leadership promises of a more varied diet were at last coming to fruition. Because of the subsequent downturn, however, per capita availability of quality foods, such as meat, either grew slowly or declined and the food situation became increasingly tight (see table 2). Rationing spread to all areas of the country, and special systems—under which food supplies were allocated directly through the workplace, bypassing the usual marketing channels—proliferated.

Table 1
Soviet Agriculture Production, 1985-88

	1985	1986	1987	1988	1989 [a]
	Percent Change				
Total output [b]	−1.5	8.5	−2.2	−0.1	3.4
Crops [c]	−2.6	9.5	−5.3	−7.2	7.9
Livestock [d]	−0.5	7.6	0.8	6.4	−0.1
	Million Metric Tons (except where noted)				
Major crops					
Grain	191.7	210.1	211.4	195.1	211.1
Potatoes	73.0	87.2	75.9	62.7	72.0
Sugar beets	82.4	79.3	90.7	87.9	97.5
Sunflower seed	5.0	5.3	6.1	6.2	7.0
Cotton	8.8	8.2	8.1	8.7	8.0
Vegetables	28.1	29.8	29.2	29.3	28.5
Major livestock products					
Meat (slaughter weight)	17.1	18.1	18.9	19.7	20.0
Milk	98.6	102.2	103.8	106.8	108.1
Eggs *(billions)*	77.3	80.7	82.7	85.2	84.6

[a] Preliminary.
[b] Net of feed, seed, and waste.
[c] Net of seed and waste.
[d] Net of feed.

Organizational Change

One of Gorbachev's first moves on the agricultural front was to create, in late 1985, a new superministry, Gosagroprom, in an effort to better integrate the agroindustrial sector. As a result, the authority of the district-level agroindustrial administration was significantly expanded, with the goal being to bring much-needed order into relations between farms, their service and supply organizations, and enterprises that process their output. Gorbachev hoped that Gosagroprom would put an end to the special-interest lobbying that had often encouraged previously existing ministries to work at cross-purposes. The overly large organization proved ineffective, however, and by 1988, Soviet officials, planners, farm managers, and workers agreed it had been a mistake. Gorbachev flatly asserted it should be abandoned, but there was sharp disagreement over what should replace it.

Resource Allocation

Gorbachev also worked to provide more resources to the agroindustrial sector in his first four years. In 1985 he succeeded in pushing through plans for an upward revision in the 1986-90 investment target for the lagging food-processing sector and directing more resources toward such farm-oriented industries as agricultural machine building and chemicals. The

Table 2
USSR: Per Capita Availability of Selected Foods [a]

Kilograms per capita

	1981-85 Annual Average	1986	1987	1988
Meat	58.9	62.3	64.1	66
Milk	310	333	341	351
Sugar	43.9	44.0	47.2	46.8
Grain and grain products (in terms of grain)	136	132	132	131
Potatoes	108	107	105	99
Other vegetables	101	102	100	101
Fruit	44	56	55	55

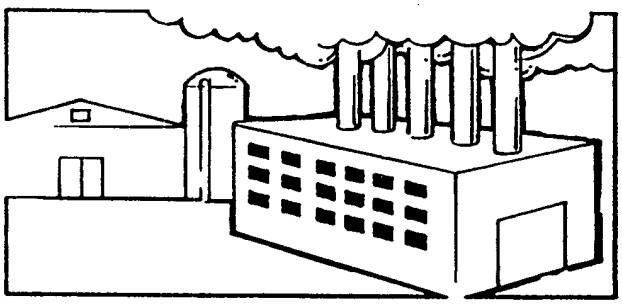
[a] Food consumption statistics for the country as a whole conceal vast differences that exist among republics. In the Baltics, for example, per capita consumption of meat is roughly 30 percent above the average. The limited statistics for Central Asia indicate per capita meat consumption is less than half the average. Contrary to expectations, Central Asians also consume somewhat lesser quantities of fruits and vegetables than much of the rest of the country.

stepped-up investment, however, was slow to materialize, because, according to Premier Ryzhkov, of the "entrenched" view that the handling and processing sector was a "secondary sphere" of the economy. This lack of progress led Gorbachev to unveil in late 1987 an ambitious eight-year program to improve food storage, handling, and processing. In a new wrinkle, Gorbachev tapped the management expertise of the defense industries to improve production of food-processing machinery (see inset).

As part of his effort to increase productivity, Gorbachev devoted particularly great attention and resources to agronomic programs. By 1988 nearly 40 million hectares of grain (about 35 percent of the total area sown to grain) were in the intensive technology program, as were large areas of such other crops as sugar beets and vegetables. The incremental yield gains, however, were somewhat less than in the first years of the program. Similarly, the amount of livestock product—meat, milk, and eggs—generated by a unit of feed has declined since 1986. Nevertheless, without this program, which added 30 million tons to grain production in 1988, according to the Soviet press, the food supply would have been far more stressed than it was. Moscow would have had serious difficulties paying for and importing an additional 30 million tons of grain to compensate for the shortfall. Imports for the 1988/89 marketing year (i July–30 June) were about 40 million tons.

By 1988 Soviet agroindustrial investment strategy had become highly contentious. The dispute centered on whether direct farm investment should be cut to force greater productivity or whether more was needed until Gorbachev's most recent strategies began to pay off. The issue was particularly thorny because the leadership was calling for overall investment cuts to help reduce the budget deficit. The need to improve the food supply system was so imperative, however, that in 1989 the authorities took the "extraordinary measure" of reallocating more than 1 billion rubles of investment funds from other sectors of the economy to the agroindustrial sector.

Turning to the Defense Sector for Help



In March 1988, Moscow subordinated plants of the Ministry of Machine Building for the Light and Food Industries to eight other machine-building ministries. Most of these ministries were in the defense-industrial sector, which already was producing a substantial quantity of machinery and equipment for food processing. According to the former Minister of Machine Building for the Light and Food Industries, the Soviets took this step in hopes of achieving results in two to three years, rather than the seven to 10 years they believed would be required to reinvigorate the old ministry by traditional means—new construction, retooling, and worker training. The machine builders are charged with providing 31.7 billion rubles' worth of equipment for agroindustrial processing in the 1988-95 period. Of this, 17.5 billion rubles' worth will be produced by defense plants, 14.3 billion by plants formerly belonging to the Ministry of Machine Building for the Light and Food Industries, and 6 billion by other plants in the civil sector. In addition, the defense sector has been tasked with developing 3,000 new types of machinery and equipment, and, by 1995, 90 percent of food-processing equipment is to meet "world standards." These targets are nearly impossible to achieve in the next several years. Nonetheless, defense industry expertise has the potential to contribute markedly to Gorbachev's plans for upgrading the food industry over the longer term.

More Independence for Farms and Individuals

In addition to measures to reorganize the agroindustrial sector and refocus resources, Gorbachev promoted initiatives to allow the farms more latitude in deciding what to grow and where to market production and to make them more accountable for the use of their resources. A major decree issued in March 1986 promised farms stable procurement plans for a five-year period, thus pledging that production in excess of the target would not be arbitrarily taken by the state. The decree also promised that state orders would replace detailed plans for procurement and would cover only a portion of production. In 1987 a major economic reform decree announced that, by the beginning of 1989, all farms were to transfer to self-financing, that is, to cover most of their expenses from their own funds. Finally, planners promised that prices paid by farms for producer goods and prices paid to the farms for their output would be revised by January 1991 and that a wholesale trade reform giving the farms freer access to supplies would be in place by 1992

Gorbachev also provided new encouragement for the private plot and for personal initiative on state and collective farms. A December 1986 decree set 1988 as the deadline for extending the collective contract throughout the agricultural sector and designated family or small, stable contracting groups as the most desirable form. Gorbachev revived the idea—discouraged in the late Brezhnev era—of assigning small teams of workers to a piece of state or collective farm land, giving them relative freedom, and paying them

according to harvest results. He particularly favored family contracts where a family group operated under direct contract with a farm. By 1988 all centrally set restrictions were removed on private livestock raised under contract with the farms, and farms were permitted to count such production toward their plan fulfillment goals. Centrally set limits on the size of private plots were also lifted.

For all the talk about freeing Soviet agriculture from bureaucratic control, none of the legislation contained adequate safeguards against arbitrary interference by higher authorities in farm internal affairs. Central authorities continued to requisition a large share of farm output in the form of state orders, often with the approval of the farm manager, who preferred the guaranteed access to supplies that such orders provided. Unprofitable farms continued to be kept afloat by doles from the central budget. Moreover, even Soviet economists agreed that, in the absence of price reforms and access to a wholesale trade network, true self-financing was not possible.

The turn toward personal initiative in agriculture also failed to live up to its promise. Although more than 60 percent of farm labor was said to be operating on the collective contract system by early 1987, officials acknowledged that there had been no overall increase in productivity. Critics claimed that the system was being introduced largely on a pro forma basis. Teams were too large, and a complex and often incorrect accounting system that defeated the effort to link wages to production efficiency was still being used.

Gorbachev's agricultural strategy became increasingly radical as he realized that new policies were needed to jolt the farm management system out of its lethargy and to focus resources on the weakest links in getting food to consumers. By the middle of 1987 he evidently became convinced that only by restoring the peasant's sense of "ownership" of the land could a quick upturn in farm production be achieved with a minimum of additional resources. In Gorbachev's view, investment increments were to be channeled primarily into the development of transportation, storage, and processing, with the defense industries directed to aid in this effort. The General Secretary apparently hoped that improvements could be accomplished without basic economic reforms in pricing and material supply—reforms that were proving so elusive in the industrial sector.

Building on the contract-team approach, Gorbachev began promoting the idea of land leasing. He apparently believed that adding a guarantee of long-term land use to the collective- and individual-contract system would make the farmworkers feel that the land was theirs and thus bring about dramatic production increases. In his view, leasing would eventually lead to a unified multilevel system, beginning with the family or small leasing unit, through the collective and state farm, and building up through the rayon and oblast levels.

The leasing proposal was particularly controversial. Reformers contended that unprofitable state and collective farms should be disbanded in favor of independent leasing, but there was strong opposition among party bureaucrats and farm managers to what was perceived as a move to break up the traditional Soviet farm system. Orthodox elements worried about the ideological implications of disbanding state and collective farms and about the potential introduction of market forces and private property. Farm chairmen feared losing the ability to maneuver men and equipment to meet centrally imposed production targets. Many workers opposed relinquishing the guaranteed wage paid by the farm. Farmworkers were also skeptical about the regime's commitment and apprehensive about being labeled *neo-kulaks* (wealthy peasants) and the possibility of losing their holdings by confiscation

Radical reformers such as Vladimir Tikhonov worried that longer term leasing did not have the potential to increase farm production substantially and began arguing the merits of individual ownership of comparatively small farms. But critics failed to address issues such as the availability of suitable land and the provision of credit and the inputs necessary to farm productivity. In the absence of these elements, "private farming" is not likely to play a larger role in

future agricultural production than the private plot of 1 to 2 acres does today. Moreover, collective and state farm managers appear, in general, to be strongly opposed to private farms, arguing—correctly in our opinion—that the current farm system has great potential for increasing output and reducing costs if merely freed from central control

The March 1989 Plenum: Promises and Means

With little to show for his first four years in the way of improved food supplies, Gorbachev in March 1989 held a Central Committee plenum focusing on the food problem. At this plenum, Gorbachev achieved some, but not nearly all, of the managerial changes he reportedly had hoped to gain (see inset) In particular, he won approval for expanded leasing. and some steps were taken to decentralize agricultural management and planning. In addition, a radical plan for the future elimination of administrative controls over farms was approved. No timetable for this was established, however, and Gorbachev conceded that state and collective farms would continue to be the primary form of production management and that leasing would, as a rule, continue to be organized under the auspices of state and collective farms. In a major retreat from his earlier position, he also stated that his plan to disband unprofitable farms would be unfair. "How," he asked rhetorically, "could we walk over living beings wreck people's lives with an economic plow?"

At the plenum, Gorbachev announced that Gosagroprom would be replaced by a much smaller USSR Food and Procurement Commission, whose responsibilities would be limited to strategic issues and scientific and technological development.[1] Although responsibility for the direct management of agriculture was to be shifted to the republic level, many of Gosagroprom's functions of planning, supply, and economic regulation were given to other central agencies, including the State Planning Committee, the

[1] According to a Soviet official, the Commission on Food and Procurements began operating on 1 October 1989. Soviet officials have expressed doubt that the new commission, with its as yet amorphous responsibilities, will produce a more streamlined system. One, for example, recently pointed out gloomily that agriculture has undergone 28 shakeups in 70 years but the problems have remained or worsened

Leadership Differences on Directions for Reform

Although Gorbachev and Ligachev, now in charge of the agroindustrial sector, assert that the leadership is united on measures to resolve the food problem, a number of differences are apparent. At the agricultural plenum in March 1989, for example, Gorbachev derided Ligachev for claiming that simply pouring more resources into agriculture without simultaneously supporting measures to encourage individual initiative would solve the food problem.

Gorbachev is a strong supporter of leasing to individuals and to groups within the framework of collective and state farms and from local soviets. He especially supports long-term leases of up to 50 years. Ligachev strongly defends the collective and state farm system. He was highly critical of leasing initially, but he has softened his criticism so long as leasing remains under the aegis of socialized farms.

Gorbachev recently has also been supporting individual farms, often referred to as peasant and family farms. He believes such farms may well be an effective part of a diverse farming system that would be more responsive to changes in demand and supply. While he has not mentioned how large individual farms could be, his comments suggest that he would be comfortable with sizes comparable to those recommended in draft legislation being debated in the Baltic republics, some 80 to 100 acres. Ligachev, however, clearly believes that individual farms should be merely somewhat scaled-up versions of the current private plot, some 6 to 8 acres, as compared with an average of 1 to 2 acres currently. He believes individual ownership of any sort threatens Communist values and would further erode the party's role.

Finally, Gorbachev appears to sincerely want decentralization of day-to-day farm management, while Ligachev has taken a traditional approach that relies on administrative changes within the existing framework. Open disagreement in the leadership adds to uncertainty, which presumably will encourage fence-sitting by unenthusiastic officials, farm managers, and farm workers.

State Committee for Material and Technical Supply, and the Ministry of Finance (see inset). District agroproms would be replaced by a variety of organizations, ranging from large, tightly integrated combines to cooperatives created by and financially accountable to farms. The retention of key controls in other central organizations, however, will sharply limit the impact of the new commission

Under terms of the plenum decrees, farms were promised the eventual right to plan and dispose of their production independently. For at least the next Five-Year Plan (1991-95), however, overall planning is to remain centralized. Although more decisions will be made at the republic level, state orders will continue to absorb a major portion of farm output—up to 90 percent or more of crops such as cotton—and deliveries of supplies to farms will still be tied to these orders. Once again, farm managers were promised that state order targets would be stable throughout the Five-Year-Plan period, a pledge that has often been made but never honored.

Some potentially effective measures were taken at the plenum to introduce a more flexible financial policy and prepare for a slow shift to a more market-oriented system. These included decisions to:

- Introduce land rent by 1 January 1990.
- Allow farms to market produce at locally determined contract prices.
- Reduce the number of price zones that determine what is paid to farms by the state

Although some of the decisions taken at the plenum could, if implemented, bring about improvements in farm production and local food supplies in the longer term, none of the measures will result in a "quick fix" of the food problem. According to the Soviet press, more local control over food supplies already has resulted in much better availability in a few agriculturally rich areas such as Orel' Oblast in the south-central RSFSR. Such local improvements, however, almost certainly have come at the expense of areas unable to produce sufficient food. Indeed, cities of Siberia, the Urals, and the far north will probably face more shortfalls in food supplies than usual this winter and early spring. Similarly, even though the law on republic autonomy was rejected in late October 1989, two republics had already taken action to improve their own supplies. Late in the summer, the Uzbek Council of Ministers cut back shipment of fresh fruits and vegetables outside the republic, and in October, Kirghiz authorities banned shipment of all vegetables beyond the republic's borders.

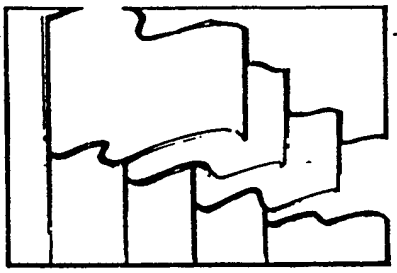
In addition to taking only limited steps to resolve the food problem, the plenum sidestepped several issues that will continue to limit production and distribution of food. In particular, little was done to break the bureaucratic stranglehold over Soviet farms, resolve the near impasse in processing and distribution, better integrate the food supply system, or curtail the unusually large demand for food resulting from sharp growth in money incomes:

- *The farm.* State and collective farm managers retain absolute power over how far and how fast the limited proposed reforms can be implemented. Many farm managers run their farms as feudal fiefdoms and they show no signs of changing. Moreover, few incentives to encourage unwilling workers to a higher level of productivity were put in place. Even if the proposed price reforms—new procurement prices, rent for land, charges for water, and so on—are implemented, they are unlikely to encourage efficient production because the reform consists largely of merely setting new prices centrally, not of allowing prices to respond to surplus and scarcity.

- *Processing and distribution.* Although the Central Committee called for targeting investment to food processing, transportation, storage, roadbuilding, and the social sphere, no one talked about money. Moreover, nothing was said about supplying scarce resources, such as construction equipment and roadbuilding material, or about the perennial difficulties the food industry has in utilizing its investment allocations.

- *Integrating the system.* Critical incentives to merge all the steps of the agroindustrial system are still lacking. So long as prices remain centrally fixed and

More Autonomy for Republics



In early March 1989, Soviet authorities published a draft law that gave republics more authority over and responsibility for the production of food, consumer goods and services, and local construction. Many enterprises in these sectors were to be transferred from central to republic jurisdiction, and the central ministries responsible for the sectors were to be reorganized or abolished. According to Soviet calculations, total industrial production under the jurisdiction of the republics was expected to increase from 5 percent to 36 percent. To involve the republics more directly in the effort to increase productivity, each republic's budget was to be financed from the profits of its enterprises.

After prolonged public discussion, the draft was turned down by the Supreme Soviet in October 1989. The rejection sets back Moscow's effort to achieve agreed-upon limits to the reform of the federal structure. Supreme Soviet deputies said the draft did not go far enough in granting economic independence to the republics and conflicted with the draft laws on Lithuanian and Estonian economic autonomy that the Supreme Soviet had already approved in principle. Moscow, however, is hesitant to make further concessions, such as allowing republics full control over their economies and natural resources, and will find it hard to compromise. If compromise cannot be reached, the initial steps toward regional autonomy may not begin in 1990.

current success indicators—gross output on the farm, gross tons stored or moved, value of retail sales, and so on—remain in place, the problem of synchronizing activities of farms, food processing, transportation organizations, and all the links in the system will remain. So far, there are no plans to revise success indicators that ignore quality to focus on quantitative targets—such as ton-kilometers, which encourage transport organizations to move heavy goods at the expense of lighter ones that may be far more subject to spoilage—and fail to promote interdepartmental coordination.

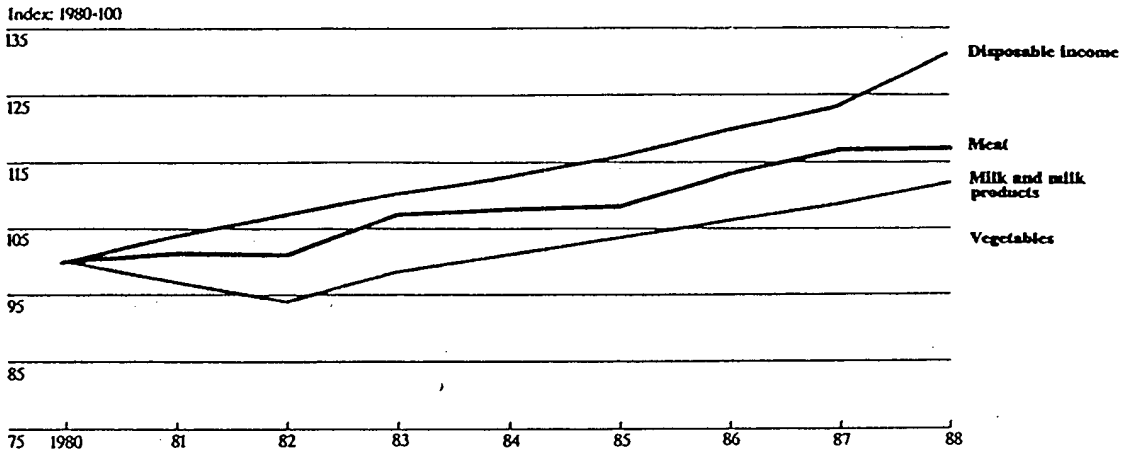
Reducing Excess Demand for Food

The most serious issue the plenum failed to recognize is the huge extent of unsatisfied demand for quality foods. Soviet economists recently estimated that the unsatisfied demand for food amounted to 25-30 billion rubles in 1988, or nearly 20 percent of the annual value of retail food sales. With most retail prices kept at relatively low levels and incomes growing at planned or even higher rates, farm production cannot possibly catch up (see figure 2). For example, the evidence suggests that, even if plans for meat production and for restraining income growth in 1989 and 1990 are achieved, the gap between demand and supply for meat would increase by nearly 750,000 tons. The shortfall already is sizable. In a March 1989 interview, then agricultural secretary Viktor Nikonov claimed the gap was about 15 percent, or about 3 million tons.

More Drastic Measures Needed

The Central Committee plenum of March 1989, in short, proved one more in a series of potential turning points in which the Soviet leadership failed to break

Figure 2
USSR: Per Capita Disposable Income and Availability of Selected Foods, 1980-88



decisively with the failed policies of the past. As a result, the food problem persists and will remain a focus of popular discontent until bolder measures are taken

Moscow's only option to increase overall food supplies in the immediate future is to step up food imports substantially; all other options require months, if not years, to take effect. The very large quantities of farm products needed to make a measurable difference, however, would strain the already overloaded transportation system and require at least a doubling of the $2.6 billion—nearly 10 percent of the total hard currency expenditures—allocated to food imports, excluding grain, in 1988.[4]

[4] Although the expenditure would add to the budget deficit initially, Moscow could choose to sell the products at retail prices higher than for domestically produced products—not commonly done in the past—and absorb relatively more of consumer money incomes, thus partially compensating the budget

Over the longer term, to provide the population with an adequate and varied diet and to avoid increasing the budget deficit, the leadership must increase production, reduce waste throughout the agroindustrial complex, upgrade the food-processing industry, improve the farm-to-market network, and slow growth in demand. Its task is complicated by the necessity of achieving progress simultaneously on several fronts. Stepping up production in the absence of other improvements could lead to increased bottlenecks along the way and even higher waste rates because of delays and lack of processing capacity. Soviet authorities have finally begun to recognize that output that is wasted had better not be produced at all.

To increase production substantially over the next few years, Soviet farms must make productivity gains and be blessed with favorable weather. Past experience

suggests that productivity gains—increases in output per unit of input—are unlikely.[3] Favorable weather, however, is possible. On average, the USSR experiences poor weather conditions in two of every five years and average or better weather in three. In 1989, for example, a mild winter (1988/89) combined with adequate precipitation and average temperatures throughout the spring and early summer in the European USSR to boost production of most major crops.

Even in the absence of productivity gains and favorable weather, limited increases in availability could be achieved by:

- *Increasing procurement prices selectively to secure increases in output of commodities in short supply.* Higher prices for specific high-quality grains and oilseeds have encouraged production increases in the past three years.

- *Further freeing direct sales by farms and individuals to reduce waste and to encourage production of more profitable commodities.* Currently, only a few farms have taken advantage of the right to sell directly to consumer cooperatives, to market through collective farm markets, or to set up their own stores in urban areas. Town authorities in most areas are reluctant to provide retail space and farms often lack the personnel and experience to set up such operations. Lifting current restrictions that prohibit individuals and farms from marketing their surplus production across rayon, oblast, and republic levels could also reduce regional disparities.

Reducing waste and improving the farm-to-market system could add substantially to food supplies, but Moscow as yet has given only lipservice to developing an integrated and efficient food supply network. The steps already taken focus primarily on specific targets, such as construction of storage and food-processing facilities, not on developing a more responsive system. Preliminary moves to reduce delays in the transportation network through decentralization have been counterproductive, according to Soviet economists, because neither enterprises needing freight services nor transportation organizations providing them are accustomed to arranging direct contracts.

Moscow must also prevent its efforts to increase food supplies from being overwhelmed by the rapidly increasing amount of money in the hands of the population. This could be done by increasing the availability of nonfood goods or by more painful measures, such as reducing income growth, extending formal rationing, or increasing retail prices. The available evidence makes it clear that the Soviets are pursuing several of these options at once.

The 1990 economic plan, for example, calls for sharply increasing production of nonfood consumer goods, in part with resources diverted from the defense sector and heavy industry. In our view, this effort is likely to yield tangible results, but, given the time required for converting defense facilities to industry and increasing the capacity of consumer-goods plants, substantial increases in production should not be expected before 1991 or later. Domestic production will, of course, be supplemented by stepped-up imports of nonfood consumer goods, many of which, particularly Western clothing and footwear, can be sold with markups of 10 or more times. Nonetheless, Moscow remains reluctant to import the substantial quantities that would be needed.

As far as the more painful measures are concerned, the Soviets, in an effort to stem income growth, have enacted legislation that will impose severe penalties for enterprises awarding wage increases of over 3 percent. In the past, however, Soviet planners have been unable to restrain rapid growth in personal money income, and, given the upsurge in labor militancy and strikes, the government's ability to hold the line on wage increases is questionable at best.

Extending formal rationing—which currently exists in large parts of at least 10 of the 15 republics—would, in theory, not reduce unsatisfied demand but would ensure a "fair share" to everyone. Latvia and

[3] See DI publication SOV 88-10054 (U), August 1988, *Modeling Soviet Agriculture: Isolating the Effects of Weather.*

Estonia recently restricted sales of certain deficit goods to local residents, and fall visitors to the Belorussian Republic report that the same system exists there. Public opposition to the expansion of rationing is extremely strong, however, and the potential for more corruption and black-market activity is high.

Growth in demand for quality foods could also be sharply slowed by retail price increases. Such increases are long overdue. The basic price of meat, for example, has been unchanged since 1962, while per capita money incomes have more than tripled. Nonetheless, reforming prices is a particularly difficult task at the retail level. Simply setting retail food prices to cover cost of production, as some Soviet economists have suggested, would reduce the government's subsidy bill but would be perceived by farms as free license to continue producing at high cost. Any increase in food prices, moreover, would also make it impossible for low-income citizens to obtain even the amount of higher quality foods that they do at present. Consumption of high-quality foods by the Soviet poor is already low. Recently, a Soviet official pointed out that poor people consume only half as much meat as average citizens.

In a preliminary step to overall price reform, in 1990 prices for potatoes, other vegetables, and fruit are to be determined at the local level by agreement between producers and users. The effect of the new procedure on processors and end users is unclear. If production of these crops is high, consumers could benefit from lower retail, collective-farm-market, and cooperative prices. If production is only average or less, consumers are likely to experience higher prices.

Outlook

Although bolder measures are clearly needed to resolve the USSR's food problem, the willingness and ability of the Soviet authorities to proceed with such measures are far from clear. So too are the prospects for increasing the quantity and quality of the food available to Soviet citizens in the years ahead. Indeed, because the performance of the Soviet agroindustrial sector in the next five to seven years will depend strongly on weather as well as on how Gorbachev's programs for the agroindustrial sector are implemented, single-value forecasts of growth in farm production—the main determinant of food availability—would be uncertain at best.

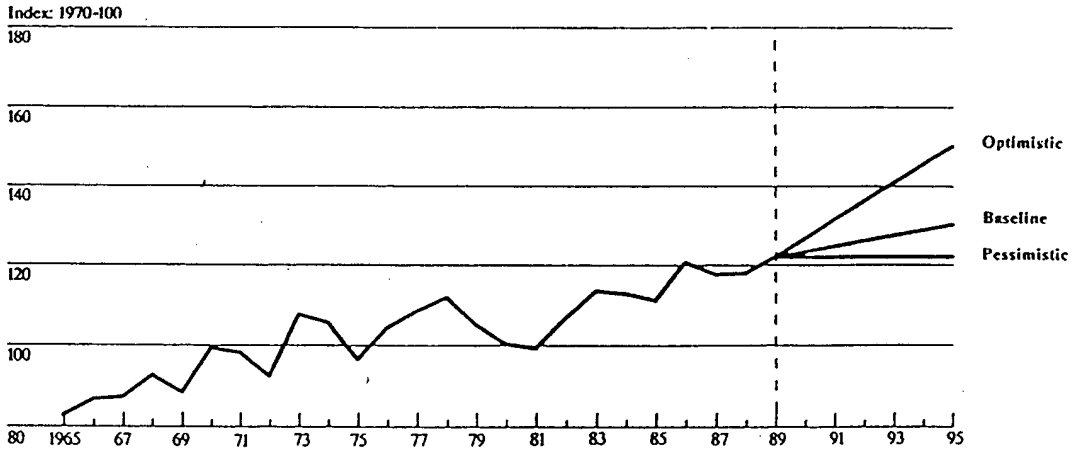
To chart possible developments to 1995, therefore, we present three scenarios for growth in food availability. These scenarios incorporate different assumptions about weather, increases in farm productivity, resistance to or acceptance of reforms at the farm level, and the degree with which efforts to reduce waste and losses meet with success (see figure 3). Imports of farm products are assumed to remain at levels of the recent past.

Our *baseline scenario* is the most plausible and is predicated on the assumptions that:

- Weather conditions will correspond to the 1965-89 long-term average.
- Efforts to increase production through more independent decisionmaking at the farm level and through leasing will make only slight headway.
- The rate of deliveries of industrial inputs to Soviet farms will recover from the depressed level of recent years to roughly 3 percent per year, still less than the average 1965-88 trend but about double the average rate during the 1985-88 period.
- Livestock feed rations will resume the slow but steady improvement registered in the mid-1980s as industry supplies more and better mixed feed and feed supplements, leading to more meat per animal.
- As farmworkers become more experienced in the application of the intensive technology program, crop yields will increase moderately.

Under such conditions, average annual farm production would increase at nearly double the 0.7 percent projected for population growth. If losses from waste could be somewhat reduced, total supplies of food

Figure 3
USSR: Projected Food Availability: Three Cases



from domestic sources would increase at an average rate of 1.5 to 2 percent annually and per capita availability of food would increase slightly but perceptibly. Sporadic food shortages would still occur under this scenario but would be far less pervasive than at present.

Our *pessimistic scenario* is predicated on the assumptions that:

- Weather conditions reflect the average that prevailed during the 1976-85 period, which included two of the most favorable years ever and three of the least favorable.
- Efforts to increase farm production markedly through more independent decisionmaking at the farm level and through leasing are unsuccessful.
- Deliveries of industrial inputs continue at the 1.5-percent annual average rate maintained during the 1985-88 period.
- Little or no additional increase in production is gained from further improvement in livestock feed rations or expansion of intensive technology

Under these conditions, growth in farm output would average less than 0.5 percent annually. Because efforts to modernize the food-processing industry and upgrade and better coordinate all the links between farm and market also would have little effect, per capita availability of food from domestic sources would decline

Our *optimistic scenario* is predicated on the assumptions that:

- Favorable weather occurs in at least four or five of the next six years.
- Farms operate without interference from the authorities, and the leasing option is successfully adopted on a wide scale.
- Farms and leaseholders are able to achieve their needed inputs in a timely fashion.

- Grain production increases to about 255 million tons, as compared with 211 million tons produced in 1989. Because additional land is not likely to be shifted into grain production, such a jump in output would require a 25-percent increase in grain yields. An increase of this magnitude would be unlikely unless the USSR manages a breakthrough in seed breeding combined with sharply improved management practices.

- Meat production increases to about 25 million tons, as compared with 20 million tons in 1989. This, in turn, requires producing 255 million tons of grain, a one-third increase in nongrain feed production, and about 40 million tons of grain imports, slightly more than the average of the past five years. Less overall feed would be required if major improvements in animal productivity are achieved.

Rough calculations suggest that, under these conditions, Gorbachev's targets for per capita consumption of meat, dairy products, vegetables, and fruit would be achieved by 1995, somewhat later than he pledged at the March 1989 agricultural plenum. Although we believe this scenario is unlikely, Gorbachev's most recent round of reforms for the agroindustrial sector could succeed in bringing about some productivity gains, increasing farm output at rates above the long-term trend. If, in addition, progress is made in reducing waste and losses throughout the system, overall food supplies could increase by 2.5 to 3.5 percent annually and become more regular. In the absence of more basic economywide reforms, however, the food problem will remain because growth in demand will continue to far outpace possible growth in farm output. Moreover, weather-related production shortfalls, which the USSR will continue to experience, will affect food supplies far more than in the West until the entire food supply system is brought up to date.

Implications

The major conclusion to be drawn from these scenarios is that the Soviet food problem is so deeply rooted and complex that there is no realistic hope that it can be resolved domestically by 1995, although some easing could occur (see inset). As a result, public dissatisfaction over the state of food supplies will persist—and could worsen—and will complicate the Soviet leadership's efforts to cope with its many other problems. Moscow, moreover, will remain a major importer of grain and other farm products well into the decade.

Barring a sudden cooling in political relations with the USSR, the United States, in our judgment, can expect to supply at least half of the Soviets' grain needs, as in 1988 and 1989, and a substantial portion of other livestock feed needs at least through 1995. Indeed, recent Soviet purchases of other farm products from the United States, including butter and poultry meat, suggest that the US role in supplying farm products to the USSR could broaden in the next several years. At the same time, Moscow's keen desire to free itself from the need to import farm products that can be produced domestically should signal to all Western suppliers that these markets will not expand indefinitely.

In its quest for productivity breakthroughs in both farm production and food processing, Moscow could also turn to the West for larger imports of advanced farm machinery, improved food-processing machinery

Airplanes for All

Western visitors report that the following story is current in Moscow: Gorbachev is making a major speech in Moscow. He promises that each Soviet family will have its own apartment by 2000. The audience responds with loud applause. Gorbachev continues, each family will have its own car by 2010. More and louder applause. Then Gorbachev adds that each family will have its own airplane by 2020. Instead of applause the audience responds with puzzled murmurs. Finally, someone asks Gorbachev, "Why do we all need airplanes?" "So that when your friends in Novosibirsk telephone to let you know sausage is available, you can get there in a hurry."

and equipment, more agrochemicals, and perhaps most important, managerial expertise. Western manufacturers supplied about 28 percent of the USSR's imports of food-processing machinery and equipment in 1988, up from about 15 percent in the early 1980s. US exports of farm machinery and food-processing machinery and equipment are, as yet, almost negligible in total Soviet imports of these goods, but recently demonstrated Soviet interest may indicate an expanded role. In addition, Soviet imports of Western agrochemicals (excluding fertilizer) have more than doubled over the past five years, largely in response to needs of the intensive technology program. US firms supply only a small share, but their European subsidiaries play a major role. Increasing reliance on intensive technology to keep domestic grain yields up indicates imports of Western agrochemicals will be needed for many years.